

III. REMARKS

In the Office Action, Claims 1, 3, 4, 7, 9, 10, 12 and 13 were rejected under 35 U.S.C. 103 as being unpatentable over Molinari (US 6308065) in view of DeJaco (US 6205130) and Demetrescu (US 2001/0053971 A1), and claim 8 was rejected under 35 U.S.C. 103 as being unpatentable over Molinari in view of DeJaco, Demetrescu, and Su (US 6493665) for reasons set forth in the Action.

Allowable subject matter has been noted in claims 5, 6 and 11.

The following argument is presented to overcome the rejections under 35 U.S.C. 103, and to show the presence of allowable subject matter in the rejected claims.

Regarding the teachings of Molinari and DeJaco, the arguments submitted in the previous response are believed still to be valid.

With respect to the teachings of the newly cited Demetrescu, there is disclosure of a method for link adaptation, when using AMR (Adaptive Multi-Rate) speech coding in GSM, particularly in EGPRS. In the method, during discontinuous transmission, the condition of a received signal is monitored and the operation mode of the AMR codec is changed only when needed, not at regular intervals. This subject matter is described also in the present specification on a general level (sections 0032-0033).

However, Demetrescu does not teach a bypassing of the link adaptation process in connection with a decoding testing procedure. In so far as the examiner's argumentation is understood, the examiner appears to believe that since Molinari discloses two modes of operation, a skilled man would realize, based on the teaching of Demetrescu, that performing link adaptation during test mode would interfere with the testing of a base station, and therefore the skilled man would attempt to bypass the link adaptation process.

It is urged that, contrary to the examiner's position, Demetrescu particularly teaches that link adaptation should be used in any case, whereby codec mode commands are transmitted based on link quality.

In the practice of the present invention, the link adaptation process is bypassed, regardless of any link quality parameters, in order to carry out a test procedure. Upon an attempted combination of the teachings of Demetrescu with Molinari and DeJaco, it is noted that Molinari does not even mention a link adaptation process, and certainly does not suggest a bypassing of such a process. Thus, the cited references, considered individually and in combination, do not teach a skilled man to bypass the link adaptation process.

The present specification provides an appreciation of the significance of the present invention. At the top of page 2, there is description of the prior art wherein the specification notes that a system simulator is employed for testing a codec of a communication system. The system simulator operates with a test loop and obtains results in terms of frame erasure rate and bit error rate for data received on a traffic channel. However, in the checking of an AMR codec, to which the present invention is directed, the AMR codec includes features which are not found in the prior codecs, and therefore, the AMR codec cannot be tested by the known testing loops.

Prior codecs operated independently of channel signal quality (specification, page 1 at lines 19-21). In contrast, an AMR codec adapts the error protection level to the radio channel and traffic conditions so as to select the optimum channel and codec mode for speech and channel bit rates to achieve the best overall speech quality (specification, page 6 at lines 12-15). The AMR codec has numerous different codec modes (top of page 8), and a link adaptation process handles measurement of channel signal quality. Selection of an appropriate mode is accomplished with signals sent inband along with speech data (line 11). The inband signaling is designed to allow for fast adaptation to

rapid channel variations (lines 13-14), and without need for a further signaling frame (page 9 at lines 12-14). By way of example, such inband signaling includes a mode indication (MI, page 9 at line 28).

The present invention has features that enable the testing of the AMR codec. In a test loop of the invention, the link adaptation algorithm is bypassed (specification, page 10 at line 36). Implementation of the test loop with an inputted test signal (having both inband bits and speech parameters) is accomplished by looping back to the system simulator only inband bits, but no speech parameters (page 11 at lines 10-12 and 33-34, page 13 at lines 6-8).

As can be understood from the foregoing passages of the specification, the invention is operative to conduct a test in the presence of speech signals by selection of a part of the test signal that does not have speech parameters. Furthermore, the link adaptation algorithm is bypassed so that the test data is obtained independently of signal quality and associated adaptive modification of signaling rates corresponding to changes in signal quality.

These aspects of the invention are noted in the claims. As set forth in claim 1, there is a generating of the test data, which includes channel-coded parameters and inband data. There is a bypassing of a link adaptation process that measures channel quality. There is an extraction of a part of the inband data, and a comparing of transmitted inband data with the extracted part of the inband data received back at the test apparatus.

These aspects of the subject matter in claim 1 are emphasized in new claim 14, which teaches that the part of the inband data is determined in the generating of the test data. Thus, unlike speech which varies with time, the extracted part of the inband signal is determined ahead of time so as to serve a reference signal in the comparison process. By way of example, even the mode indication signal (MI) may be sent back to the system simulator (SS) as noted in the specification on page 13 at lines 5-10, while the speech parameters transmitted by the SS are not looped back but are encoded as

zeros. Furthermore, claim 14 recites that the bypassing enables the codec to operate in response to the test data independently of a measured channel quality.

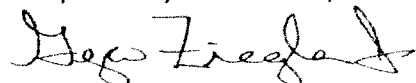
In the rejection of the claims based on the combination of the teachings of Molinari in view of DeJaco and Demetrescu, there is no consideration in the cited art of the foregoing situation, dealt with by the claimed subject matter, wherein there is testing of a system having a codec responsive, via a link adaptation process, to measured channel quality, and wherein there is application of a test signal having a component of speech parameters that must be excluded in the evaluation of the codec performance.

It is urged that the emphasis of this distinction, provided by new claim 14, overcomes the foregoing rejection so as to provide further allowable subject matter, in addition to the allowable subject matter already noted in claims 5, 6 and 11.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,



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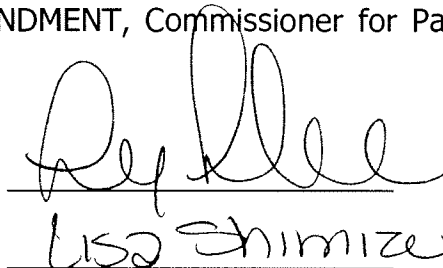
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